SELF CONDEMNATION, INDEBTEDNESS AND FINANCIAL STRESS: FINDINGS OF A CROSS-SECTIONAL STUDY IN PAKISTAN

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Abstract

   To determine various aspects of the Micro Economy that entails the foundation of Financial Stress arising for an individual in Pakistan. The essential focus of this study is firstly, on how behavioral factors or Personality Traits affect the degree of Financial Stress that an individual undergoes; and secondly, how conditions of Indebtedness of a person accentuate the conditions of distress. Assortments of constraints arising from Dependency burdens and Household Saving patterns that go hand-in-hand with the Economic Positionality are also brought into consideration with the help of this paper, focusing solely on results obtained for developing nations, such as Pakistan itself. Financial Stress was measured on a ten-item ordinal scale, consisting of a set of questions included in the survey questionnaire, while the preferred models used in this paper consisted of Ordered Probit and Tobit Models which estimated this cross-sectional study and the relationships of the two core variables; Self Condemnation, as well as Indebtedness with individuals' financial stress. This study therefore, was able to depict that increased levels of Self Condemnation among individuals, due to a lack of resources or income, as well as high rates of Personal Debt in proportion to Individual Incomes; both have a positive significant relationship with the level of Financial Stress that these persons undergo. Government Policies and regulations of institutions can however, have an auspicious impact on the micro level as exploitation of the underprivileged can be controlled, and benefits be provided, leading to the uplifting of distress among the population.

Part I. Introduction

Part I of the study discusses the synopsis of Financial stress in terms of sustainability, depth, and conditions of individual indebtedness in the form of a cross sectional establishment while preceding this, lies the discussion solely focused on the various financial institutions that provide credit and the respective exclusions and vulnerabilities constituted- based on indigenous banks. Eventually, this section will determine the relevance of the study exclusively for Pakistan, keeping in perspective, the practical importance as well as the managerial and empirical data for the country.

An Overview of Financial Sustainability, Financial Depth, and Indebtedness: Cross Sectional Foundation

Pakistan, being one of the developing economies facing high rates of unremitting inflation, an instable political environment and high degree of corruption rates, has caused its inhabitants belonging to various income groups to undergo high rates of stress regarding their finances. Since Pakistan is a consumption based nation, on a micro level, it is essential to highlight the fact that majority of what the poor earns as income is being spent on food consumption solely.

Poverty, the root cause of financial stress among majority of the individuals, has unfortunately been an extreme issue in Pakistan. In addition, high rates of inflation have dug down deeper holes for the poverty stricken and the low income groups. This is mainly described as having to do with more of a societal facet, as individuals might not be able to participate in mainstream activities of the community, rather than being physically deprived (Anwar & Siddiquie, 2005)

Figure 1.1 in Appendix A, therefore illustrates the food inflation of regional countries including India, Bangladesh, Sri Lanka and Pakistan itself. According to this, in April 2014, the most recent trends available show that Pakistan had a food inflation of 9.9 percent while India's food inflation was at 9.7 percent and Bangladesh at 9.0 percent. However, one of the reasons behind the varying trends was the weather and the climatic conditions and varied patterns of consumption in the different countries, giving this study a head start in terms of the challenges that individuals had to face with respect to different levels of financial stresses.

Based on the yearly per capita income[8] of $1386.2, the average monthly income prevalent in Pakistan is around Rs. 11,693.80 below which lays the low income group of individuals.

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[8] Economic and Social Indicators obtained from the Economic Survey of Pakistan for the years 2013-2014. Exchange rate of Rs101.25/$.

The proverb from Anne Isabella Thackeray Ritchie's novel, Mrs. Dymond (1885), states "give a man a fish, and you feed him for a day; show him how to catch fish, and you feed him a lifetime." This, in fact, describes financial sustainability to a great extent. Sustainability consists of a wide range of definitions while focusing on financial sustainability and development precisely in the context of this paper, it entails with the poor faction having access to funding from the non-conventional financial sector, which as a result, has a positive, long-run impact on poverty alleviation (Ayayi & Sene, 2010). Poverty reduction and sustainability therefore, operate hand-in-hand, and are the main focus of the overall development of individual households in Pakistan where social and material exclusion have been the basic hindrance in eradicating poverty and thus, establishing financial sustainability.

Further on, shedding light over the amount of money/assets that an individual has access to, according to Jude & Chukwu (2009) as well as Kiadó (2004), financial depth and economic growth have a positive relationship and in addition, a high economic growth would resultantly escort financial development. Evidence in these studies has been provided of developing countries and so, can be applied for when interpreting financial depth conditions in Pakistan.

On the other hand, however, one of the major causes of financial stress, which may sometimes end up being fatal (P. Satish 2006), is financial indebtedness. Pakistan, constituting of a large agricultural sector, may experience the most cases of debt burdens especially as farmers tend to utilize their revenues into non-productive purposes rather than paying off their debts. Increasing family sizes, as well as increasing debt burdens in turn play a great role in this area of study.

Outreach of Financial Institutions, Financial Exclusion and Induced Vulnerabilities through Indigenous Banks

Financial Institutions where play a great role in providing credit to borrowers, offering a low cost of acquiring that loan, usually behold a lengthy hassling procedure, including chances of not being lent the required amount, also place the needy in a vulnerable position. Microfinance, however, is a tool that lets the excluded individuals from formal financial systems, to acquire sources of funding in ways that are feasible for their respective exclusion and poverty states (Ayayi & Sene, 2010).

With the presence of a large number of commercial banks, Pakistan still constitutes of a large portion of traditional banking techniques, especially in the rural sector, with friends, pawn shops, and other informal institutions providing credit to the under-earners; and the ease with which loans are obtained is far greater than the formal banking institutions and their

strict terms of loan, creating a flourishing, incompetent environment for these indigenous banks. However, on the contrary, these informal financers may also keep in mind the risk of default that they may be exposed to, the high cost of screening candidates, as well as the lack of completion, setting their interest rates at an extremely high end, exploiting the borrower even further (Stiglitz, 1990).

Moreover, individuals that require sources of financing contingencies and other unexpected expenses, either exhaust a portion of their savings or use up the funds received via ROSCAs[9] that nullify the immediate effect of the expense. In case of borrowing in such instances, usually, these indigenous financers take advantage of the helpless victims by charging them with higher interest rates.

Research Concerns and Objectives

This study firstly aims at testing the proposition that Self condemnation has an effect on Financial Stress faced by personnel acquiring Pakistani households. Self condemnation has been quantified through an ordinal scale. Since a negative emotional trait would add to stress, this case is also no different. Thus, a positive relationship is expected to be present between Self Condemnation and Financial Stress. In fact, our testable hypothesis states that *Self Condemnation and thus, self blame or disappointment has an insignificant impact on the cropping up of Financial Stress in individuals or not.*

In order to investigate a second proposition of whether Indebtedness has a positive and significant relationship with Financial Stress, we've quantified the debt to income ratio in the form of a ratio scale. The study is further expected to determine that an increase in the personal debt, in proportion to income, would lead to a heightened level of Financial Stress. In this case, our testable hypothesis is that *Indebtedness has an insignificant impact on the level of Financial Stress faced by individuals or not.*

However, unfortunately, Pakistan lacks sufficient research in this segment and so, since coverage of this specific topic has not been available for the case of this country, this adds to the qualification of the study of our concern and requires us to promote any findings that can be attained in the course of the research.

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[9]Rotating Savings and Credit Associations. These are very common associations present in developing countries. Every member of the association is to contribute and make monthly payments in a central base and every month, this collected amount is handed over to one of the members, according to their turns. This member will then be continuing their cash outflows till the end of the term but will not be receiving the collected amount.
Ulrich Scholten, "Rotating Savings and Credit Associations in Developed Countries: The German-Austrian Bausparkassen", Journal of Comparative Economics 28, 340-363 (2000)

Part II. Methodological choices

Part II of the study discusses various researches and theories conducted by previous authors, providing a framework of analysis, in addition to the quantifications of variables and the methodological stance that has been opted for. The above aspects will all be supported by literature in this part of the paper.

Micro foundation of Financial Vulnerabilities

Levels of financial stress have a varied trend in individuals belonging to different socioeconomic groups, keeping under consideration, the many factors that are responsible for this stress. May it be the individual's own lack of skills that have caused him/her to find a less suitable, low paid job, or may it be the large family size that a single entity has to earn for; financial stress tends to arise in many different forms, some of which will be discussed and given evidence for in this study.

As stated in a US economy based literature[10], as the economy suffers from episodes of financial stress, individuals, households, businesses and financial institutions bear the consequences too. Since, in such circumstances, the value of assets, and thus the prices of these assets become highly volatile, this leads to a lack of confidence in individuals who then refrain from spending due to future uncertainty of wealth. The economic vulnerabilities, therefore, lead to these individuals suffering from the same financial stress side by side. On the other hand, since investors would be more willing to obtain higher levels of debt and equity during adverse economic conditions, the banks too, will be curtailing their lending to potential borrowers either by increasing interest rates that they charge on loans or by strengthening their minimum credit standards. (Lown & Morgan) Both of these methods would however, cut down the amount borrowed by individuals, thereby letting them sustain the financial stress that they face, maintaining it only by lowering their basic spending, and thus, consumption levels.

Personality Traits and Financial Stress

Personality traits, in this paper, include emotional modifications that go hand-in-hand with the degree of financial stress that individuals are exposed to. According to findings of literature, similarly, stressful circumstances seem to have a major impact on individuals' health and these situations are mainly a result of cognitive and behavioral responses to

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[10] Craig S. Hakkio and William R. Keeton, "Financial Stress: What is it, How can it be measured, and why does it matter?", Federal Reserve Bank of Kansas City

proceedings in the real world (Kubzansky and Kawachi 2000; Gallo and Matthews 2003).

Moreover, in comparable results obtained from Marmot (2004) and Wilkison (2005), it is claimed that individuals belonging to low income divisions tend to be more vulnerable to emotionally nerve-racking situations vis-à-vis the better off income divisions. It was furthermore stated that a high level of financial stress, as well as the various episodes of being shamed due to a low social status, lead to individuals being exposed to a greater risk of suffering from psychosocial ill health, as it is intricate for them to live up to the expectations of people surrounding them in addition to their personal expectations..

A financially stressed livelihood can anticipate shameful sentiments such as self-doubt, inferiority, guilt, low-worth of self, and so on, eventually leading to a state of social exclusion (cf. Scheff 1990; Starrin et al. 2003; Marmot 2004; Sennett and Cobb 1972; Wilkinson 2005). This was further backed up by almost two centuries old suggestions of the famous Adam Smith (1776/1996) which pointed out a link between psychosocial behavior of individuals and the basic provisions of life, which if kept away from, would lead to them feeling ashamed of public encounters and appearances.

Furthermore, another study states the three major psychosocial threats to individuals arising from the work place situations leading to personal stress eventually. First, the study mentions Job insecurity as a factor that takes place in times when the businesses and industries face adverse challenges, rapidly downsizing and this causes a stream of insecurity among the labor force, also giving rise to self conscious behaviors regarding the skills that they possess and whether they might be sustainable. Second, labor intensification, takes place when the workload of every employee rises beyond a certain limit, causing a condition of overwork, leaving these individuals stressed when unable to cope with the increased pressure.

 Eventually, and most importantly, the problems that individuals might face in their personal lives, affect their well-being negatively as after all the mentioned issues converge and move to one's own house either adding to frustrations and conflicts or a sense of condemnation and lack of confidence on one's own skills (Drahten & Hermann, 2007).

Dependency Patterns, Consumption Smoothing and Indebtedness

Having a strong hold on cultural and traditional norms, households in Pakistan tend to follow joint-family structures which further leads to issues based on dependency. The dependency ratio, particularly concerned with in this study involves the proportion of the entire population that is aged 65+ which, according to literature presented by Leff (1969) is evidenced to have

a direct relationship with savings of households while a positive, insignificant relationship with income.

As far as impacts on savings are concerned, a previously published study stated the fact that interest rate has a reasonably low ability to manipulate savings as compared to the dependency ratio which has a remarkable effect on savings (Thanoon, Baharumshah, 2007)[11]

Savings, effectively, play a role in consumption smoothing as persons rely more on consumption rather than income, as stated in Ndanshau's (1998) cross-sectional study[12]. In times when income is at a low level, individual households sustain consumption by exhausting their savings. In addition, his results also state that the less income groups are too poor to uphold savings, possessing lesser marginal propensities to save (MPS), vis-à-vis the rich ones. Likewise, this is further reinforced by a more recent work of literature that states that individuals belonging to different income brackets tend to have different trends of consumption. While the low income group will make use of their entire income, high income groups, on the other hand, are able to hold savings in addition of what their consumption levels are (Lin, Grace, 2007)[13].

Kamil (2007) states that debt has its repercussions in the society and that it should be highly discouraged. This debt has caused developing countries to abstain from investing in basic institutions such as healthcare and education, hence adding to the many reasons that lead to poverty and thus, financially stressed individuals; as parents would be unable to educate their children resulting them to be under-skilled and away from opportunities that could raise their own status; and also, make space for vulnerabilities coming from the lack of medical facilities and funds to finance any contingencies. According to the National Association for Business Economics[14], the darkest clouds that envelop the entire world today include the hazard of subprime loan defaults and unwarranted indebtedness.

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[11] Marwan Abdul-Malik Thanoon and Ahmad Zubaidi Baharumshah (2007), "*Private Savings, Growth, Dependency Ratio and Foreign Capital: Some issues and lessons from Malaysia*", Research Center on International Cooperation of the University of Bergamo, Page 143.

[12] Michahel O.A. Ndanshau, "Dependency rates, poverty and saving rates in the LDCs: Evidence from cross sectional household date in Tanzani, Giordano Dell-Amore Foundation, No. 1/2 (1998), pp. 85-96

[13] Yijia Lin and Martin F. Grace, "Household Life Cycle Protection: Life Insurance Holdings, Financial Vulnerability, and Portfolio Implications ",   The Journal of Risk and Insurance, Vol. 74, No. 1 (Mar., 2007), pp. 141-173 , American Risk and Insurance Association

[14] www.nabe.com

Moreover, it is claimed by similar studies[15] and works of literature that low intensity of Financial Stress is coupled with better standards of well being and security and so, a lower degree of stress in turn.

On the other hand, a study based on Bergemean & Wallace's (1999) results claims that debt stress may lead to a great level of physical distress and so, individuals suffering from high amounts of debts, will certainly be more susceptible to greater health issues. Furthermore, this might not be the only effect as individuals may face additional stresses, mainly due to conflicts between spouses originating from financial concerns. The impact of indebtedness has been therefore reported to have caused couples to undergo divorces in many cases as well.

Data Instruments

Questions for this study were asked directly, in the form of questionnaires as well as interviews from the survey respondents in order to answer the research objectives. In this part, we would determine the various quantifications that we found to be suitable for the measurement of our three instruments self condemnation, indebtedness and financial stress.

Self condemnation, our first key instrument, was measured by a question that asked individuals to reveal the degree to which they blamed their own lack of abilities and skills for their unsuccessful lives. This involved their personal guilt for the major reason of being under qualified, and the shame that followed in the form of financial stress. This degree of self condemnation had been quantified on a scale of 1 to 5 with 1 being the least amount of self-blame and 5 being the most.

The next key variable, Indebtedness, was measured by the ratio of debt that people held in proportion of their incomes. This was quantified in percentage forms that could help us determine the ratios that we needed for this study.

Financial Stress, our main regressor, consists various techniques of developing an index in various studies, the first of which was put forward by the economists of Bank of Canada (Illing & Liu). In this study however, the composite index was derived using ten questions stated in the questionnaires (Q80-89), measured on a Likert scale (strongly disagree; 5 strongly agree) making up an index to be used as a measure of individual financial stress.

Questionnaire Design, Sampling and Related Procedures

An in-depth survey of the financial state of affairs of individuals was conducted in the form of a primary research, focusing on the microeconomic

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[15] Sapora Sipon, Khatijah Othman, Zulkifli Abd Ghani, Husni Mohd radzi, "The Impact of Religiosity on Financial Debt and Debt Stress", Procedia - Social and Behavioral Sciences 140 (2014) 300 – 306

aspects of individuals and households. The questionnaire with regard to this study has thus been structured in a way that includes 6 sections that allow the research to consider and shed light upon the demographics of respondents, their household characteristics, financial & economic factors, social & political factors, and some cognitive, habitual & physical aspects of their beings that might have had an effect on the level of Financial stress that they uphold.

The questionnaire was further shaped to accommodate for a convenience sample while anticipating the low, middle as well as the high income brackets in the form of quotas so that accurate comparisons and generalizations could be made to satisfy the scope of this research. To cater to this purpose, data for the yearly per capita income for the years 2013-2014 had been obtained via the Economic Survey of Pakistan in order to craft partitions among the various income groups and make a distinction between them.

While the designed method of conducting a survey through questionnaires might be exceedingly time-consuming and expensive, on the other hand, a lot of the potential errors have been catered to and avoided while most of the questionnaires were conducted in the form of face-to-face interviews due to barriers coming from linguistics and varying literacy trends among respondents. This further, leads to an increased effectiveness of the survey results as individuals can wholly understand the questions and the depiction of their scales. Also, data collected for this study has ended up being entirely up to date since all the procedures had been conducted in the present few months, aiding to drawing modern conclusions.

Moreover, the technique used in studying the relationships of key variables was Ordered Probit as our dependent variable i.e. Financial Stress has been present within a scale from 1 to 5.

Specification of Ordered Probit and Tobit Models

The two models made use of in this study were Ordered Probit and Tobit. The essential reason lying behind our main model, Ordered Probit is that Financial Stress, the key regressand, was quantified in the form of an ordinal scale. The basic distinction, here to be mentioned is that since a binary variable has not been used, rather Financial Stress has been measured over a scale from low to high, therefore, an Ordered Probit Model has been made use of instead of a Probit Model which would strictly measure a dummy dependent variable.

Since the regressand in the Ordered Probit Model is in a continuous form, as explained previously, it means that y^* will function in an arrangement consisting of a range of x variables and an additional disturbance term. This combination is thus illustrated as follows:

$$y^*_I = x_i\beta + e_i \qquad ; e_i \sim N\,(0,1)\ \&\ i = 1,\ldots\ldots,n \qquad (1)$$

y_i in equation (1) however, exists in an ordinal form acquiring values from 0 to s as demonstrated below:

$$y_i = k \qquad \mu_{k-1} < y^*_I \le \mu_k \quad \Longleftrightarrow$$

where $k = 0,\ldots\ldots,r$ and moreover, $\mu_{-1} = -\infty$, and $\mu_r = +\infty$

While in case of binary data, we study how changes in certain regressors eventually end up determining the probability of examining a specific ordinal outcome, these probabilities can be exhibited below:

Prob [Financial Stress = 0] = P $[\mu_{-1} < y^*_I \le \mu_0]$,

$= P\,[-\infty < y^*_i \le \mu_0]$,

$= P[y^*_i \le \mu_0]$,

substitution from(1),

$= P[x_i\beta + e_i \le \mu_0]$,

$= P[e_i \le \mu_0 - x_i\beta]$,

$= \phi\,(\mu_0 - x_i\beta)$;

Prob [Financial Stress = 1] $= P[\mu_0 < y^*_i \le \mu_1]$,

$= P[\mu_0 < x_i\beta + e_i \le \mu_1]$,

$= P[\mu_0 - x_i\beta < e_i \le \mu_1 - x_i\beta]$,

$= \phi\,(\mu_1 - x_i\beta) - \phi\,(\mu_0 - x_i\beta)$.

The probability outcomes for the category 2, 3, 4 & 5 would be alike and so, finally, the generalized equation would look like follows:

$$P\,[y_i = k] = \phi\,(\mu_k - x_i\beta) - \phi\,(\mu_{k-1} - x_i\beta)$$

On the other hand, in the case of our competing Tobit Model, a dummy dependent variable for Financial Stress has been made use of. Following are the functions that depict both the competing models.

Ordered Probit Model
Y= Financial Stress
X_1= Economic Positionality
X_2= Self Condemnation
X_3= Terms of Loan
X_4= Household Expenditure Income Ratio
X_5= Personal Debt Income Ratio
X_6= Household Savings
X_7= Old Age Dependency Ratio

$Financial\ Stress = f\,(X_1,\ X_2,\ X_3,\ X_4,\ X_5,\ X_6,\ X_7)$ \qquad (2.6.1)

$Financial\ Stress =$
$\beta_1 Economic\ Positionality + \beta_2 Self\ Condemnation +$
$\beta_3 Terms\ of\ Loan + \beta_4 Household\ Expenditure Income\ Ratio +$
$\beta_5 Personal\ Debt Income\ Ratio + \beta_6 Household\ Savings +$
$\beta_7 Old Age Dependency\ Ratio + \mu$ \qquad (2.6.2)

Competing Model Specification
Tobit Model
Y= Dummy for Financial Stress
X_1= Self Condemnation
X_2= Personal Debt Income Ratio
X_3= Household Savings
X_4= Old Age Dependency Ratio
Dummy for Financial Stress = f (X₁, X₂, X₃, X₄)   (2.6.3)
$Financial\ Stress =$
$\alpha_1 + \alpha_2 Self\ Condemnation + \alpha_3 Personal\ DebtIncome\ Rati +$
$\alpha_3 Household\ Savings + \alpha_4 OldAgeDependeny\ Ratio + \mu$ (2.6.4)

According to a study conducted by Yiing Jia Loke, Steven T. Yen, Andrew K.G. Tan (2010)[16] on Credit card holders and the card debt inviolved, we related their model technique and claimed that since an individual may withhold either a high amount of financial stress or low amounts of stress, a Tobit model is made use of with a binary dependent variable and varying quantifications of key regressors in order to make estimations and accommodate probable endogeneity of experiencing or not experiencing financial stress.

Part III. Model analysis

Part III discusses the empirical findings of the study with respect to the population of Pakistan as described in the preliminary sections and moves on to justifying the relationship of various regressors with our response variable, keeping the context of Pakistan in perspective and formulating a conclusion as well as highlighting the limitations of the study.

Survey Respondents' Profile: Key Findings

A sample of 35 individuals residing in Lahore, Pakistan from varying socioeconomic aspects of life was targeted as the basis of this study. This sample included individuals with differed genders and an age bracket from 20 till about 65, to ensure that the entire working age was covered.

Most of the respondents were married individuals with their own households to finance and dependents to support, in the form of spouses, children, siblings as well as old parents. In the duration of majority of the interviews, in addition, women claimed to work up to the age where their children would grown old, stating that the purpose of their employment was to feed the young offspring and educate them. On the other hand, the male

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[16] Yiing Jia Loke, Steven T. Yen, Andrew K.G. Tan, "Credit card holders, convenience users and revolvers: A tobit Model with binary selection and Ordinal Treatment", Journal of Applied Economics. Vol XIV, No. 2 (November 2011), 225-255.

population was more inclined to work till they reached the -retirement age of 60.

As mentioned in the first chapter, the average monthly income is Rs. 11,693.80, and this study involves respondents with monthly household incomes ranging from an extreme low of Rs. 6000 to an extreme high of Rs. 800,000, catering to the traits of all the individuals and their households belonging to the different income classes. In contrast, with regard to the respondent's respective incomes, about 34% of our total sample lies below the average monthly income line. However, on the bright side, some jobs provided the employees with free medical as well as bonuses and incentives for extra work hours and also, pension for old age retirees but this is alas, beyond the key interest of this study.

Estimates of Ordered Probit and Tobit Models, Goodness of Fit and Model Consolidation Tests

Model	Ordered Probit Model	Tobit Model
Regressors	Dependent Variable: Financial Stress (1=low; 5=high)	Dependent Variable- Dummy for Financial Stress (0=low; 1=high)
	Coefficients	Coefficients
Economic Positionality 1=High Income; 5=Low Income	0.2263186 (0.99)	………
Self Condemnation 1=Low; 5=High	0.3786508* (1.84)	0.2009735* (1.86)
Terms of Loan 1=Most favorable; 5=Least favorable	0.1864677 (1.08)	………
Household Expenditure Income Ratio	0.6581932** (2.29)	………
Personal Debt Income Ratio	3.22188* (1.73)	1.902886** (2.47)
Household Savings	-0.2042651** (-2.24)	-0.0990981*** (-2.77)
Old Age Dependency Ratio	1.778667* (1.95)	0.6057673 (1.28)
Constant Term	………	0.7845719 (1.48)
Number of Observations	35	35
Goodness of Fit Tests		
Log Likelihood	-74.520398	-27.709792
LR chi2	37.28	17.80
Prob > chi2	0.0000	0.0013
Pseudo R2	0.2001	0.2431
Model Consolidation Tests		
Breush-pagan Test (Heteroskedasticity)	Chi2(1) = 0.02 Prob > chi2 = 0.9012	Chi2 (1) = 4.44 Prob > chi2 = 0.0352
VIF (Multicollinearity)	Mean VIF= 1.89	Mean VIF= 1.23

Note: Below the coefficient values in parenthesis we report the t-statistics * denotes significance at 10% ** denotes significance at 5% *** denotes significance at 1%

The mathematical form of equation 2.6.2 is now illustrating below, the various changes that are caused by the predictors on Financial Stress, the regressand of this study after running the Ordered Probit Model:

Financial Stress = 0.2263EconomicPositionality + 0.3787SelfCondemnation + 0.1865TermsofLoan + 0.6582ExpenditureIncomeRatio + 3.2219DebtIncomeRatio – 0.2043Savings + 1.7787OldAgeDependencyRatio

Similarly, the mathematical form of equation 2.6.4 is now illustrating below, depiction of the competing Tobit Model:

Financial Stress = 0.7846 + 0.2009SelfCondemnation + 1.9028DebtIncomeRatio - 0.0991Savings + 0.6058OldAgeDependencyRatio

The tests applied in this study were the Breush-Pagan test and the VIF. Since cross-sectional studies usually face the problem of heteroskedasticity[17], posing results that are biased, we therefore found it appropriate to test for the presence of heteroskedasticy to make sure our models were accurate. According to the Breush pagan test, we established looking at the chi2 value of 0.02 as opposed to the prob>chi2 value of 0.9012, that heteroskedasticity has probably not been a problem in the Ordered Probit Model. However, the presence of heteroskedasticity has been observed in the case of our alternate model, Tobit.

The Variance Inflation Factor, moreover, tests for multicollinearity[18] and so, according to the mean VIF of 1.89 and 1.23 in the Ordered Probit Model and the Tobit Model respectively, the presence of moderate correlation among the variables used is quite evident; however, this is not a worrisome matter and so, multicollinearity, in this study, is not an issue to be highlighted.

Below will be discussed the empirical results and findings that are in harmony with the literature presented in the previous chapter.

Analysis of Findings
Personality Traits and Financial Stress

The results obtained from the Ordered Probit Model depict a positive relationship between self condemnation and Financial Stress. This means that an individual blaming his lack of skills and education for the circumstances he is in will lead to an overall rise in the individual's financial stress by 38%.

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[17] Heteroskedasticity is a condition, especially present in cross sectional data, where the variance of data does not have a constant error term.

[18] Multicollinearity is a condition that has to do with the correlation between the independent variables such that in case of high correlation, it will be difficult to interpret the key regressors that are in fact affecting the regressand. Therefore, lower the correlation among the Xs, more accurate will be the model.

This relationship has further become definite as per the Tobit model where the positive relationship between the regressor and the regressand has confirmed that personality traits have a direct linkage with the occurrence of Financial Stress.

Moreover, this relationship is established by the previous works of literature and is relevant in case of Pakistan with its huge class gaps. Individuals acquiring a low status in the society due to the income level that they possess, undergo episodes of embarrassment coming from their self-conscious behavior, an inferiority complex and the treatment that they receive from the society.

In the local society of Pakistan, unfortunately, people are presented respect towards according to the wealth they possess. Employers will propagate their endless powers while employees, no matter how hard they work, will stand below the workers that earn a higher income and acquire better skills than them. This may give rise to certain insecurities and lack of a sense of belonging, which builds on to stress for the individuals due to their varying funds.

Indebtedness, Financial Vulnerabilities, and Financial Stresses

According to the results of this study, Model 1 suggests that as the proportion of debt increases to a specific level of income, naturally, there are will be lesser funds to finance the increased debt, eventually leading to an increased level of financial stress.

On the other hand, model 2 illustrates the probability of a individual being financially stressed or not when it is exposed to a certain number of independent variables. This model also suggests similar results according to which, as the debt to income ratio increases, the chances of the individual being financially stressed rise by 1.91.

Individuals, especially the low income group, as mentioned earlier, tend to spend most of their income for consumption purposes. However, they are usually left with insufficient funds to finance other basic necessities and therefore, opt for loans and engage themselves in the act of borrowing. This buildup of debt sometimes gets out of hand as the borrower is unable to pay back the credit lent either on time or with the high interest payment. Therefore, this situation solely leads to a high level of Financial Stress for individuals as their income is not sufficient to finance the debt that they were holding.

In reference to the above discussion, debt plays a great role in various localities of Pakistan, particularly the rural areas where agricultural loans exceed to such an extent that not only is the borrowing individual unable to pay back the loan, but also do his future generations bear this burden of indebtedness which, of course, increases in value over time as interest keeps

adding on to the principle amount. This has caused many to fall into the category of financially stresses, sadly.

Experimental Econometric Modeling and Other Key Regressors

This paper consists of various other variables that have an impact on the upsurge of Financial Stress, out of which, the first one is Economic Positionality. As depicted by our model, a decrease in the economic positionality tends to raise a household's financial income as income is the main source to finance resources to cater to individuals and form divisions among the different classes. Another variable, Terms of Loan is illustrated to be less favorable in order for Financial Stress to increase. This is due to the very reason that loans would be less feasible and more costly for the needy, putting them in a difficult situation when borrowing. Third, as a household's expenditure increases for a fixed amount of income, the overall affordability goes out of hand and so, the individual, once again, has to experience high levels of stress. Then, savings, as talked about in the previous literature, seem to exist only in households that hold high incomes. Since they are the ones not spending it all on basic consumption of food solely, and instead, have enough to save for the future. Savings therefore have a negative relationship with financial stress in a sense that, as savings increase, financial stress of an individual tends to lower down.

Lastly, Old age dependency is one variable that holds somewhat great amount of weightage, especially in a joint family culture that Pakistan holds. Children, when grow up and begin to earn, are obliged to be responsible for their parents' expenses and in most cases, even live together to support them in old age. In this study, Old age dependency was measured as followed:

Old Age Dependency = Old members in the household/ Total household members

Our model thereby states that as old age dependency rises, financial stress is most likely to rise due to additional expenses.

Conclusion

After standardizing a definite model to test the impact of various aspects of the micro economy on the financial situation of individuals and therefore the stress uprising due to those factors, we have been able to furnish this study to address the key variables affecting these individuals on the basis of the financial stress they undergo. The study has thus been able to draw a conclusion based on its two key regressors, Self Condemnation and Indebtedness, which have both shown a positive significant relationship with Financial Stress. Pakistan, being a developing nation, has encountered macro and micro level issues, while based on the scope of this study, due to huge gaps between the various income groups, the low income bracket has over

the years, suffered the most in terms of lack of funds, and enormous debt intake, further adding to the level of financial stress that these individuals have to face. However, the high-income bracket has faced the least amount of financial stress due to abundant wealth, savings, as well as funds in itself. This further on heightens their status in the society and builds bigger bridges between the rich and the poor, and increases the exploitation rate of the less privileged due to which the poor feel the lack of skills and opportunities that they acquire in comparison with the rich. This most definitely depicts the relationship that our second key variable, Self Condemnation has with Financial Stress. The study therefore, shows a link between all of these factors aiding to one end result, which is Financial Stress.

Pakistan being a country with a high population, and abundant resources, can therefore match the skilled workers to their jobs, and this can only be possible when a regulatory institution and policies keeping a check on corruption rates, especially that exploiting the poor in the credit providing institutions. Brick by brick, financial stress can be alleviated for individuals by giving them cash grants, unemployment insurance, and most importantly, a sense of belongingness.

Limitations of the Study

Being an unsponsored student, there were a few obvious limitations to this study. Firstly, in terms of issues concerning the generalizability of this study, the sample size consisted of only 35 individuals however, these individuals were randomly chosen from different income backgrounds with, highs and lows, making it worthy of a well-generalized audience to a great extent.

Moreover, there was a language barrier in terms of getting the questionnaires filled from the respondents and so, the questions had to be narrated in the local language, Urdu, in the form of an interview for a large majority of the sample. This in turn, was very time consuming and could have invited biasness but that too, only marginally since respondents are especially hesitant to disclose information regarding their income and individual finances.

way; and of course, my parents, without whose support, and the desire to make them proud, this might not have been possible. Thank you!

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APPENDICES
Appendix A : Fig 1.1- Food inflation of Regional Countries
(Y axis: % Change ; X axis: Time periods)
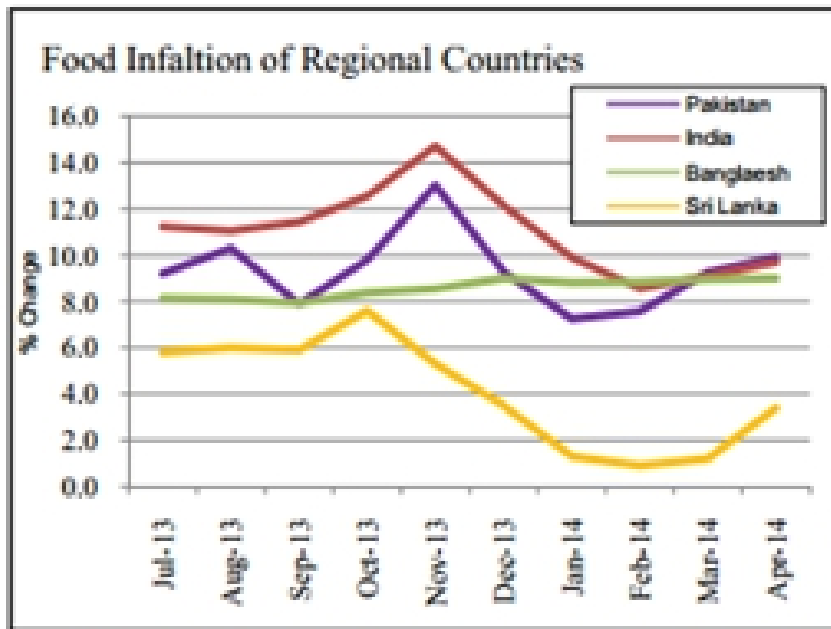
Source: Ministry of Finance, Government of Pakistan